FOREST PEST MANAGEMENT
Pacific Southwest Region 81 2598

11
R4
81-7
2598

Report No. 81-7

3430 Evaluation
April 24, 1981

PSW FOREST AND RANGE EXPERIMENT STATION
AUG 27 1981
STATION LIBRARY COPY

EVALUATION OF DECLINING LODGEPOLE PINE AT GREENLEAF SPRINGS RESORT, JUNE LAKE, INYO NATIONAL FOREST

John Wenz, Entomologist
David Schultz, Entomologist

ABSTRACT

Several lodgepole pines near or adjacent to the Greenleaf Springs Resort parking-lodge access area began to decline about one year ago. Symptoms include needle discoloration, loss of foliage, and twig and branch dieback. No single cause of the decline was determined. The pine needle scale (Chionaspis pinifoliae), the pitch nodule moth (Petrova metallica), proximity to structures, retaining walls and paved areas, and possible disrupted soil moisture conditions may all be contributing to the situation. No realistic management alternatives could be provided beyond replacing dead lodgepole with native species more moisture tolerant, such as cottonwood.

INTRODUCTION

On April 6, 1981, John Wenz and Dave Schultz, Entomologists, Forest Pest Management Staff, examined the declining lodgepole pines near the Greenleaf Springs Resort in June Lake. This was in response to the March 20, 1981 Forest Pest Detection Report (DR7/81) submitted by Mark Smith, Mono Lake Ranger District.

The decline was apparently noticed about one year ago. Symptoms included needle discoloration and loss of foliage accompanied by twig and branch dieback. The affected trees were all located near or adjacent to retaining walls, buildings or paved areas (road, parking space). On most of the trees the buds and twigs toward the tip end of the branches were dead, but the cambium/phloem back from the tips was alive, even when the branch was almost completely defoliated. One suppressed tree near the lodge was dead and had been attacked by the mountain pine beetle, Dendroctonous ponderosae. Another lodgepole had a few dead branches caused by squirrel or porcupine feeding.

Several factors may be contributing to the decline. Pine needle scale, Chionaspis pinifoliae, and pitch nodule moth, Petrova metallica, were present on the trees, but not in sufficient densities to be the single cause of the problem. Some of the needle dieback symptoms appear characteristic of road deicing salt damage, but deicing salts are not used in the area. The parking-lodge access area between the main road and the lodge structure was paved about one year ago, at approximately the time the decline started to appear. The lodge is located toward the bottom of a slope and the water table in the area is high. It is possible that paving the parking - lodge access area altered the soil moisture conditions in the area so that the tree roots are being adversely affected, probably by too much water and/or reduced aeration. It is not uncommon to find lodgepole pine mortality associated with perodic flooding, such as along the edges of lakes or meadows.

In summary, it was not possible to determine a single, dominant cause responsible for the declining lodgepole pine, and no specific realistic management alternatives can be provided. Should the lodgepole continue to decline and die, replacement considerations might include native species more moisture tolerant, such as cottonwoods.